Shanmuga Industries Arts & Science College T.V.Malai

NOVEMBER/DECEMBER 2024

23PSPH35 — ELECTRICAL CIRCUIT NETWORK SKILLS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. State Ohm's law.
2. Define power factor.
3. Define a blueprint.
4. Draw ladder diagram.
5. Distinguish between AC and DC motors.
6. Write the purpose of a motor starter.
7. Define relay protection.
8. What is a circuit breaker?
9. What is the difference between solid and stranded cables?
10. Define star connection.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain the difference between series and parallel circuits.

Or

(b) List the purpose of energy auditing.

12. (a) Explain the difference between a writing diagram and a schematic diagram.

Or

(b) Describe the components of a generator.

13. (a) Explain the difference between single – phase and three-phase AC motors.

Or

(b) Describe the basic design of a DC motor.

14. (a) Explain the difference between fuses and circuit breakers.

Or

(b) Explain the purpose of arc fault protection.

15. (a) List the safety precautions for soldering.

Or

(b) Describe the types of insulation.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

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16. Design and calculate a three-phase AC power distribution system.

17. Compare and contrast AC and DC power systems, including generators and transmission.

18. Describe the difference between power transistors and thyristors, with applications.

19. Differentiate AC and DC protection systems, with applications.

20. Compare different types of electrical conductors.

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